

Technology Stack

In an Airline Management System project on Salesforce, the technology stack refers to the collection of tools, frameworks, and services used to develop, deploy, and maintain the application within the Salesforce ecosystem. Here's a brief overview with image examples to illustrate each layer:

1. Front-End (User Interface Layer)

Tools/Technologies:

- **Lightning Web Components (LWC)** – Modern UI components built on Web Standards.
- **Aura Components** – Legacy component framework.
- **HTML/CSS/JavaScript** – Styling and basic interactivity.

Example UI Elements:

- Booking forms
- Passenger dashboards
- Flight status panels

Illustration: Lightning Web Component UI

2. Back-End (Business Logic Layer)

Tools/Technologies:

- **Apex** – Salesforce's proprietary programming language (similar to Java).
- **Triggers** – Automate actions like updating flight status or notifying passengers.
- **Batch Apex / Schedulers** – Used for processing large data like flight logs or reservation history.

Illustration: Apex Code Snippet in Developer Console

3. Data Layer (Database & Models)

Tools/Technologies:

- **Salesforce Objects** – Standard (e.g., Account, Contact) and Custom Objects (e.g., Flight, Ticket, Aircraft).
- **SOQL/SOSL** – Salesforce Object Query/Search Language for data retrieval.
- **Data Relationships** – Lookup & Master-Detail for connecting models like Flights ↔ Bookings.

Illustration: Custom Object for Flight

4. Integration Layer

Tools/Technologies:

- **REST/SOAP APIs** – For integrating with external systems (e.g., payment gateways, weather APIs).
- **Named Credentials & External Services** – For secure connections to third-party services.
- **Platform Events & Change Data Capture** – For real-time data sync between systems.

Illustration: Salesforce Integration Architecture

5. Deployment & DevOps

Tools/Technologies:

- **Salesforce DX** – Developer experience tool for source-driven development.
- **Scratch Orgs / Sandboxes** – Used for development, testing, and staging.
- **GitHub, Jenkins, CI/CD Tools** – For version control and automated deployments.

Illustration: Salesforce DX Workflow

Summary Table

Layer	Technologies Used
Front-End	LWC, Aura, HTML, CSS, JavaScript
Back-End	Apex, Triggers, Batch Apex
Data	Salesforce Objects, SOQL/SOSL
Integration	REST/SOAP APIs, Platform Events
Deployment/DevOps	Salesforce DX, GitHub, Jenkins, CI/CD